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Combat Crew

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GEN. BENNIE L. DAVIS
COMMANDER IN CHIEF, SAC

BRIG. GEN. HAROLD J. M. WILLIAMS
Inspector General

COL. RICHARD A. PATRICK
Director of Safety

STAFF

CAPT. ROSS W. PHILLIPPE
Editor
G. FRANCIS FARRELL
Associate Editor
SSgt. DAVE WADE
Art Editor
MARY JANE ABBOUD
Editorial Assistant

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IN THIS ISSUE

Stand By One 4
Funny Thing Happened 10
Twelve Thoughts 16
Maple Flag 18
CFIC 23

ON THE COVER

**Symbolic
Salute To
All SAC
Personnel
During This
Holiday Season**

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COMBAT CREW is an internal publication of the Strategic Air Command with the sole purpose of promoting safety. The contents of this magazine are informative and not to be considered as directive in nature. Facts, testimony and conclusions of all mishaps printed herein may not be construed as incrimination under Article 31 of the Uniform Code of Military Justice. All names, dates and places used in conjunction with mishap stories are fictitous. Written permission must be obtained from Headquarters, Strategic Air Command, before any material may be reprinted by other than U.S. Air Force organizations. Use of funds for printing this publication has been approved by Hq. USAF. Distribution FX, controlled by IGFC, SAC units submit distribution requests through local PDO. Reader to copy ratio 9:1

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DEPARTMENT OF THE AIR FORCE

Lt Gen John J. Murphy
Commander, 15th Air Force

AN ACCIDENT WAITING TO HAPPEN

One of the most challenging aspects of leadership in the Air Force is the constant effort necessary to instill safety awareness in our people. Safety is everyone's responsibility; however, commanders and supervisors must assume an added accountability for the safety of their people. As such, their efforts are critical to the success of the mission of the Strategic Air Command and thus the Air Force. Therefore, when these responsibilities are ignored or misunderstood, the security of the nation is jeopardized.

Recently I listened to the briefing by the president of the board that investigated a Class A Flight Mishap. Throughout his presentation the same message came through loud and clear again and again: not only was this accident preventable, it was predictable. The crew's indicated lack of knowledge, the pilot's faulty judgment, and deficiencies in training made this "an accident waiting to happen."

The longer I listened to his report of apparent complacency and tolerance of errors, the more I began to wonder if perhaps there are similar dangerous situations elsewhere in the command.

If there are other accidents waiting to happen, it is our responsibility as commanders and supervisors to make sure that those accidents never have a chance to happen.

How do we do that?

— First we get the most intelligent and highly motivated people we can find. That's a tall order today but it must be done. Lack of motivation and complacency go hand in hand to become accidents waiting to happen.

— Next we train our people well. There is simply no substitute for good solid hands-on training. And we make sure our people know exactly what we expect of them.

— After we have trained our people we give them the chance to perform. Very often this is the toughest part of the process: We spend a lot of time and money training our people, we need for them to do well to insure we can accomplish our mission, we want them to do well, we don't want them to fail. But we will never know until we give them the chance to perform.

— As our people train and perform, we constantly evaluate their performance. Our mission demands and will accept nothing less than thorough, tough, and honest evaluations.

Sometimes it's difficult to correct a friend or co-worker. But in this job, where people's lives are on the line on every mission, the correction of an error is mandatory. If a co-worker fouled up a task and you knew it, and it led to an aircraft accident, how would that compare with the difficulty of correcting that person? Not every error made on the flight line is going to lead to disaster, of course, but we cannot afford to make value judgments on improper procedures, techniques and sloppiness. They must all be identified and corrected.

Co-workers are many times unable to correct these problems; therefore, supervisors and commanders must do so. Sometimes isolating a problem can be difficult. Is it a lack of training, evaluation, or personal ability?

Lack of training is difficult to accept because, in our business, training is very standardized and has been quite successful over the years. However, consider that those who are now doing the instructing are considerably less experienced than were their instructors. They are good, but they do not have the background and depth of experience that once existed in the Air Force. While Instructional Systems Development (ISD) has helped to correct some teaching problems, it won't identify those students who can answer test questions but who really do not understand the system. Thus the subjective evaluation of training effectiveness, which is so important to teaching, is deferred to the Air Force system of formal evaluation.

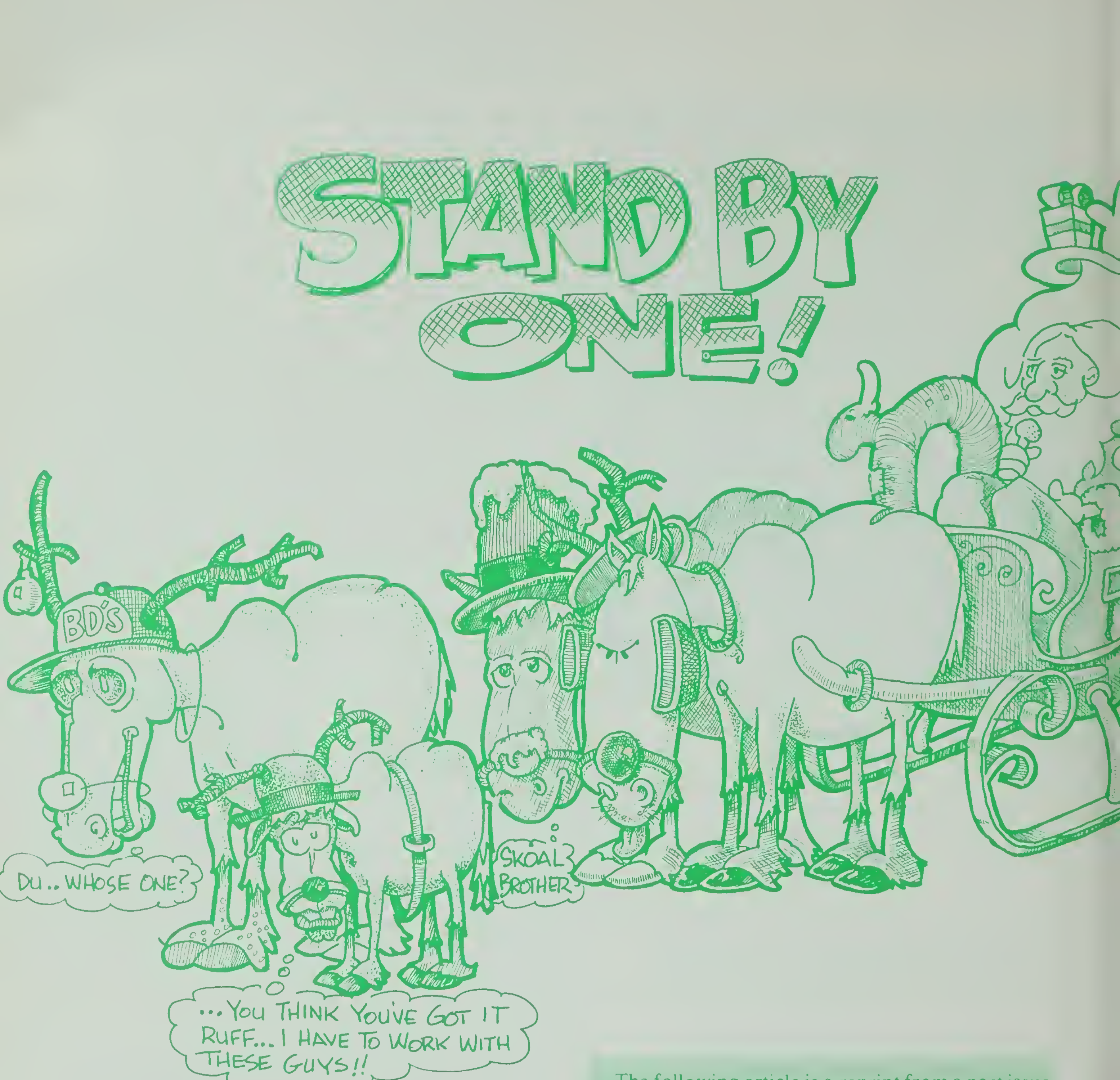
Virtually everyone assigned to a critical task in the Air Force is given an evaluation on his or her ability to perform that task. But, those who have been around know that a "check ride" cannot cover every aspect of the task or mission. It cannot predict how a crew member will actually respond in an emergency by evaluating actions during simulation. For instance, it cannot show how someone will react to a series of malfunctions at the end of a long fatiguing day. In short, an evaluation only indicates that the individual successfully accomplished well practiced maneuvers or tasks to a level of competency acceptable to the evaluator. But the evaluator is, in fact, only taking a snapshot in time.

— If our people do well, we achieve our goal of having highly competent, professional, and safe crew members. If any of our people don't perform well as crew members, we must remove them because they are the accidents waiting to happen.

If this process sounds familiar, it is! It is the same process that has been used successfully for years in units where accidents were few and far between.

However, it is not a simple process because the cycle is endless. The fact is it must be repeated continuously since that is the only way to make certain that those accidents waiting to happen never get the chance to happen. Are you really doing your part? ★ ★ ★

STAND BY ONE!


BD'S
DU.. WHOSE ONE?
SKOAL BROTHER
...YOU THINK YOU'VE GOT IT RUFF... I HAVE TO WORK WITH THESE GUYS!!

MAJOR JOHN J. ROWE
305 ARS, Bunker Hill AFB

The following article is a reprint from a past issue of Combat Crew. It makes for an interesting story which is especially significant at this time of year.

SLAMMING the door against a persistent white swirl that tried to follow, Colonel John Ormsby stood inside the foyer and briskly slapped snow from his uniform topcoat. Satisfied, he finally relinquished it to the hatcheck girl at the counter.

"Well, Millie, you certainly got your wish for tonight," he remarked cheerfully before stepping inside the nearly deserted club.

Glancing around in approval at varied seasonal decorations, Ormsby wished there were more people about. But who ever deliberately spent Christmas Eve anywhere except home? Only soft-hearted commanders filling in for junior officers — that's who, he thought sourly. Nevertheless, a brand new father shouldn't be made to pull duty tonight.

"Colonel Ormsby, you have a call on line five." The blaring PA system neatly caught him mid-stride on a direct course to the bar and he reluctantly veered toward the phone.

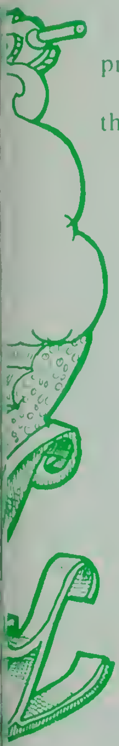
"Ormsby," he bluntly informed the other end.

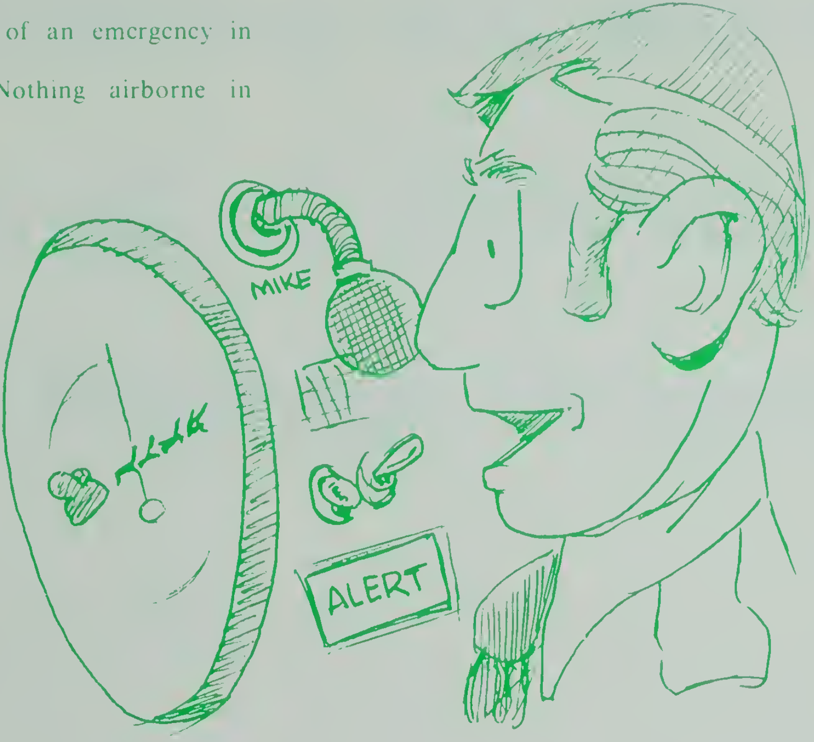
"Evening, sir, Major Randall, flight supervisor. Hope I didn't . . ."

"No, no, go ahead, Bill."

"Well, sir, I have sort of an emergency in progress."

"On Christmas Eve? Nothing airborne in this stuff is there?"





"I don't think so, Colonel, but the tower says it has one holding at the outer marker asking for clearance for an approach."

"Who's on tower tonight?"

"Sergeant Smith."

"And what does approach control have to say about it?"

"Didn't even know he was inbound till they picked him up on their scopes about thirty out." Randall hesitated a moment before going on. "I think perhaps you and Doc Thorpe ought to have a talk with tower, sir."

"Why? What's the matter, Bill?"

"He insists it's Santa Claus requesting an ILS approach to runway two-seven left."

"Ye Gads! Don't move from there. I'll come just as soon as I can get him a replacement and an ambulance no, I'll run him over to observation myself." He hung up without so much as a goodbye.

Ormsby puffed up the last step. Flanked by Thorpe and a spare traffic controller, he stood in the eerie fluorescence of the tower and listened to the humming radio console while his eyes adjusted. Major Randall hurried to the Colonel's side.

"Evening, sir," he whispered. "There does seem to be an unidentified aircraft at the outer marker."

Quietly they surrounded Sergeant Smith, who leaned over the console in a half crouch, wildly eyeing Ormsby and the flight surgeon.

"Better let me take it from here, Sarge," his relief demanded gently, reaching for the microphone.

"Hey tower! Yuletide one here," came a booming voice over the air. "What's the delay down there?"

"Arr roger, one say type aircraft," the replacement queried cagily, looking about him with a suppressed smile.

"Sled and eight, all perkin'," came the glib reply. "How about a lower altitude? Dancer's icing up a bit."

Shrugging, the tower chief complied. "Yule one is cleared to two thousand. Continue holding and report reaching."

"Check! Outa five, descending. How about expediting a little? Gotta lot of deliveries to make tonight. Remember, you're not the only air base, Charlie."

"Stand by, one."

"What's Santa's weather?" murmured Ormsby automatically.

"Colonel!"

"Dammit, what am I saying anyhow? Let me have that mike." Gripping it tightly with both hands, he keyed it.

"Murphy, if that's you horsing around up there, I'll fry you in oil next time I get to your base," he growled.

"Just left Colonel Murphy's residence, old boy," boomed the voice. "He's trimmin' the tree. I've got a few goodies for your kids too, if you'll just let me down. Too much snow to risk a blind descent."

"Yeah! Well, wise guy, how come Santy needs a letdown? Thought you were supposed to be magic?" snarled Ormsby in cold rage.

"Magic, but not nuts, Colonel. Always been able to tail another ship inbound and slip the scopes till now. But this front caught me flatfooted. Nothing else in the area, so I had to give myself away or be late. By the way, Colonel, I see Cindy's still sucking her thumb. Ah! She looks so cute, asleep and waiting. Better not disappoint her."

Ormsby shoved the microphone back at the tower operator. "Get that screwball down ASAP and have the air police escort the pilot to my office, he ordered curtly. "I'll have his . . . uh . . . well, I'll have it, that's all!" He lit his cigar, angrily drawing the match across one of his own "no smoking" signs.

"Yuletide one, cleared for ILS approach to runway two-seven left," intoned the tower. "Carrying 200-foot overcast, 3000 broken, one-half mile in blowing snow. Wind 23 zero at 15, gusting 25. RCR of 10. Altimeter two-niner-atefower. Cleared to land."

"Whoops! Nasty little crosswind there. Yule one commencing approach. Be advised I've got Prancer temporarily feathered. No emergency — he's just a trifle pooped."

They didn't even bother to answer, but grimly stared through sleet covered windows at the runway's dim outline, waiting for the first sign of a landing light.

"Got him!" cried the Major. "A little left of center, but moving over!" All eyes swung in line with his finger.

In shocked incredulity, they stared — seeing, but not believing — as eight beautiful reindeer were briefly silhouetted against the threshold lighting. They leveled off just beneath the overcast, then banked sharply right to hurtle directly over the tower and toward the housing area. A loud jingle of bells gradually faded, to be replaced by the humming console.

"Ho! Ho! Ho! — little rusty there. Yule one is in contact and closing out. A Merry Christmas to all, and to all, good night!"

Dazedly they stared at the offending loudspeaker while somewhere in the background a phone commenced ringing frantically.

"It's Mrs. Ormsby, sir; said to remind you to drop by the hospital and ask the MOD for some more of that medicine for Cindy. She's sucking her thumb again."

Better Training and Morale Through an Effective Canned Package Program

Capt Thomas D. Brown, Jr.
340 BMS, Blytheville AFB

An effective canned package program can be the key to better training and a higher state of mission readiness for your unit. Not only can a good program allow the crew members the time to accomplish more detailed mission planning and improve morale, but it can also serve as a vehicle for the development of efficient mission profiles. Building an effective canned package program is not an easy task.

It is not difficult to see why an effective canned package program is hard to build. Look at all of the factors that affect canned packages. Air refueling and low-level times have to be bought two months prior to the start of each quarter. Scheduling can't always get the times they desire. Once the times are bought, they are subject to change at any time. Times are lost due to preemption by higher priorities. Air refueling commitments fall out at the last minute. Broken airplanes and weather are also problems. Wait a minute! Aren't these scheduling problems? What does this have to do with canned packages?

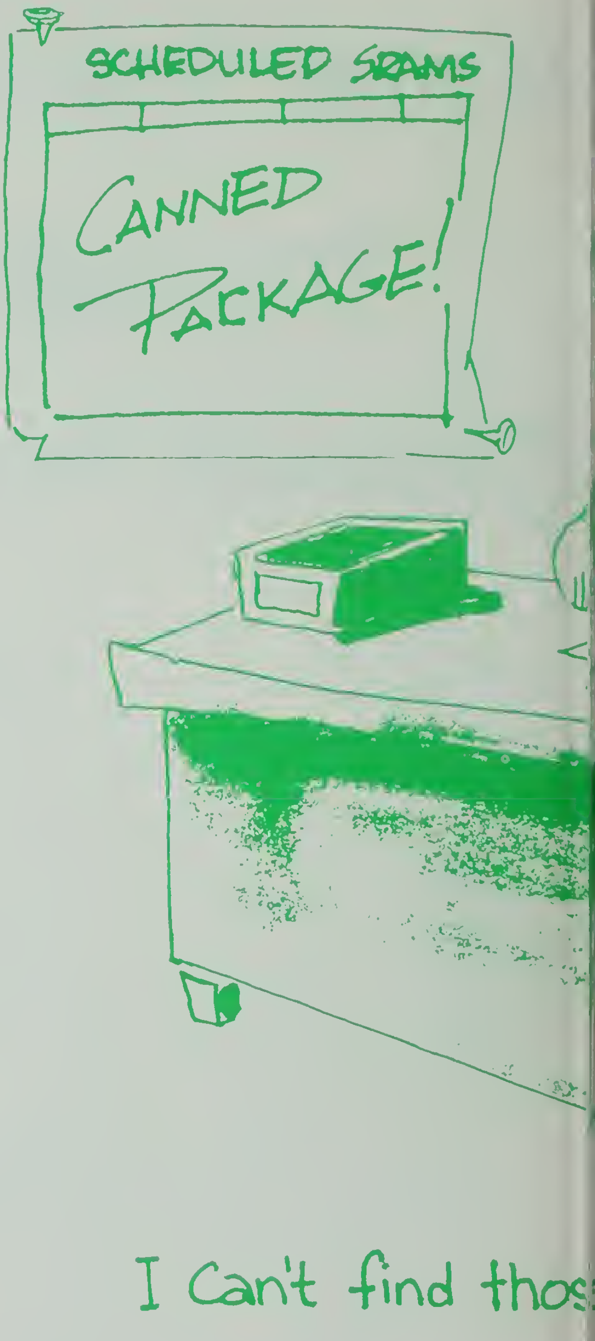
You can't build a canned package until you have a place to go and a time to be there. An effective canned package program is a comprehensive mission development program, not just charts and 200's in a folder. Missions must be developed giving careful consideration to fuel conservation, checklist accomplishment, SRAM programming, and the accomplishment of training events. Once effective mission profiles are developed, a mix must be selected for canned packages. The actual packages can then be assembled. Finally, the structure of the program must be written down on paper.

How do you develop effective mission profiles? The first step is to get out the charts and start planning missions. Take all of the low-level routes that your unit flies on a regular basis and plan every combination of training events that can be reasonably accomplished on a mission to that route. For example: try different air refueling tracks, high bomb runs, long navigation legs, short navigation legs, several fighter exercise areas, or maybe a double dipper into another low-level route. The major factors to consider during this stage of mission development are checklist accomplishment and SRAM programming. Once you have completed all possible mission profiles for each low-level route, you will be ready for the next step.

The next step is to work with scheduling and the wing staff on training objectives. How many air refuelings do they want each quarter? How many bomb runs, navigation legs, etc? Where is the emphasis going to be? This is central to the program. Once you have established the number of each training event desired per quarter, you can go to your bank of mission profiles and choose the most effective profiles to accomplish those events. Scheduling should be able to select a mixture of profiles that will fit into your unit's flow plan and get the job done. Scheduling must buy the times for the selected mission profiles. For example: our unit selected seven mission profiles that would allow the accomplishment of 125% of our desired training events (except sorties). A mixture of times were bought that would make it possible for each crew to fly each profile once a quarter. These profiles did not include our diversity exchange missions. The mission timing from these selected mission profiles will form the nucleus of your canned package program.

After creating a stable nucleus for your program, you have to add flexibility. Here again, coordination with scheduling is the key. Scheduling will buy the times for your nucleus of packages and will know which training events are the most effective for each package, but other options are needed. Without those options, your canned packages will not do the job. All options must be based on the same mission timing as the basic package they are derived from. For example: we have one basic package that goes from take-off to air refueling to low-level with four bomb runs. We have the option after low-level to return directly home, or to go to one of five different fighter exercise areas, or go to our diversity exchange base with a navigation leg en route, or do two bomb runs low then a high bomb run an hour later and then home. For one basic package, we have eight options all using the same air refueling and bomb times. This is one way to add flexibility. Another way to add flexibility is through the use of cell procedures. For example: we have an air refueling track that is the most effective for five different low-level routes. The basic packages for these routes all use the same mission timing to a cell break-up point 20 minutes after air refueling. We have a hard air refueling time every day for that track. The entry times for all five low-level routes are based on that air refueling time. This gives scheduling flexibility as well as accomplishing cell training events.

If you start with the most effective mission profiles, and add enough flexibility, there should be no need for changing your basic packages each quarter. The actual air refueling times and release times may change each quarter, but the mission sequence timing should not change. The only major changes we have each quarter are our



CANS ANYWHERE!!

diversity exchange packages. You can expect occasional changes in training objectives or policy which may make a modification to your canned package program necessary. Through coordination with the DO and DOT, these changes can be anticipated and the needed modifications can be implemented without a major disruption to your program. We do add options as they are needed.

How do you actually build and maintain the packages? There are many good ways to do that. You will have to tailor a program to fit the manpower and needs of your unit. Organization is the key here. Our program is run by line crew members. We have separated low-level charts from canned packages. One radar navigator manages the low-level chart program. We use the color copier for low-level charts and put them in the domestic target folders. Another radar navigator runs the canned package program. He develops the mission profiles, coordinates with scheduling for the times, and builds and maintains the packages. Counting all of the options for our seven basic packages, we have over 30 canned packages. These 30 packages may seem like a lot for one crew member to maintain, but through the use of common routing, it is not overwhelming. For example: we have only one master chart and 200 for the cell common routing to the air refueling track that is used for 5 different low-level routes. We supply a black and white copy of the charts for the navigator and copilot. The radar navigator must draw his own chart. We run all mission paperwork through the strip copier.

We started the program with a base supply level of each package. The exact number of each package was based on scheduling's projected usage for a six-week period. Each package was placed in a large envelope with an inventory list on the outside. The crews were instructed to return the envelope with any reusable paperwork. Once the envelopes were returned, the mission paperwork was replaced and the envelope put back into the system.

The final step in building your program is to organize the procedures and coordination required to make it work and put them down on paper. Key people in your program will get new jobs, be PCS'd, etc. Don't allow the program to go with them! A DO-OI can be used to insure that your program remains as a functional part of your unit's operations plan.

If you can develop efficient mission profiles, add flexibility, work closely with scheduling, organize a good package maintenance program, and put it all down on paper, you will have an effective canned package program that can be used on 80% to 85% of your scheduled missions, as ours is. Such a program will increase training effectiveness and raise the morale of your crews.

A Funny Thing Happened on the Way to the Airplane

When the klaxon is sounded, crews will report to their aircraft, start engines, and monitor the radio.

That's what it says in the book, but over the years, it's been my observation that fleshing those words out into action has provided excitement and amusement for several generations of crews. The following are some sample vignettes of responses to the horn.

The Fosberry Flop — Two crews, on hearing the klaxon, jumped into one six-pax. The second crew had to sit in the pickup bed. One lieutenant wanted a better view, so he sat on the tailgate. "Go, go, go!" was the assurance that everyone was in. The pickup lurched forward and the lieutenant did a three quarters backward flip (Olympic diving degree of difficulty — 4.5) onto the pavement. "Stop, stop, stop!" The dazed young officer was picked up and thrown into the truck bed. "Go, go, go!" and the happy crews departed in a cloud of dust.

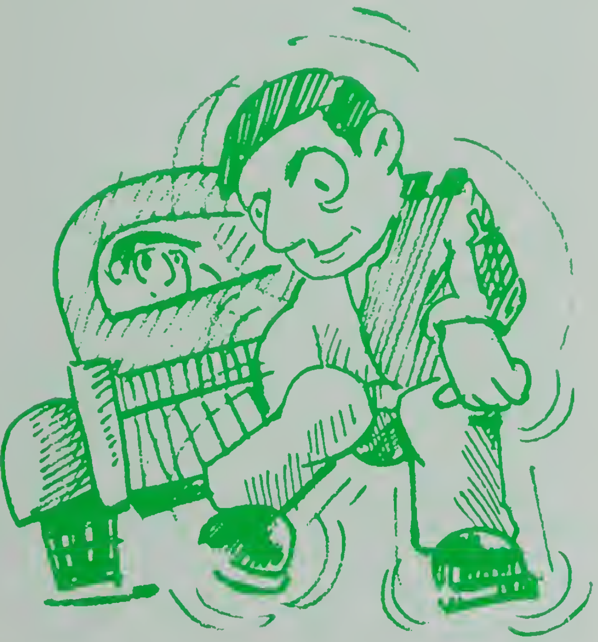
Indianapolis AFB — One truck was responding at 80 miles an hour when they were passed by another crew.

At another base, the crew reeled around the corner of the ramp doing at least 45 mph, skidded to a smoking stop, raced up, started engines, then . . . had to wait for four minutes for an opening to taxi.

I watched from the aircraft as my navigator, responding in a second truck, drove up, locked the brakes, skidded for 45 feet in the snow, and stopped ten feet from the rear of our parked crew truck. Immediately thereafter, my heart resumed functioning.

It was the middle of a quiet afternoon and the horn interrupted his "combat nap." It was VERY cold outside; he bundled up snugly in his parka, leaving only a small peep hole to squint out of. Up on the flight deck, he shouted "Starting Engines checklist" to his copilot, who turned out to be another A/C! "What are you doing on **my** airplane?" asked the other pilot; "oh" said our confused hero as he realized he had overshot his aircraft which was parked next door.

And of course, there was the copilot who hopped in the truck and only after he got to the green airplane did he detect that he was with a Buf crew, not his tanker crew. "Now where the hell is my co?" were the fading words he heard from the bomber pilot as that copilot departed for his tanker.



At The Aircraft

A/C — "Clear?"

Co — "No"

A/C — "Roger," then, spring loaded to the GO position, he fired the cartridge with the engine cover still in place.

Charlie — "Sortie five, your pitot covers are on. Sortie six, your pitot cover is on . . . Sortie 104, your pitot covers are on."

The nav confirmed that it was a mover. The new tanker A/C was right in position as he turned onto the active. "Water started" stated his old head copilot. "Stop the water" corrected the A/C, for that wasn't part of the checklist on a rolling alert. Yes, you may have guessed it, the copilot stopped the water pump and also hit the drain switch. The crew's reputation, along with all 560 gallons of water, laid in puddles down the middle of the parallel.

HERE PLANE, Oh HERE BOY!!

But my personal favorite occurred late at night. While reading in bed and getting ready to fall asleep, the klaxon blared. A quick glance at my watch confirmed the time as 11:30 p.m., exceptionally late for a regular exercise. I jumped into the green bag, zipped up the boots, grabbed my coat and ran. Two steps out of the back door and I was drenched. My God, we were in the middle of a thunderstorm! Did the fifty yard splash to the airplane, squished my way upstairs, started the engines, and listened as all the navs requested a message. "Standby" came command post's all too familiar response. After a very long time, an exercise message was broadcast. It was only upon returning to the alert facility did I learn that the only result of a lightning strike to that building was to set the klaxon off.

Epilogue

Those are just some of the exciting times I've had or heard of first hand while on alert. Anyone who has served in that capacity for very long can probably top most of them. Perhaps it's because of those experiences that I now respond a little more cautiously, demand that the driver of my truck drive sanely while responding from the BX, double check my starting engines checklist, and can usually be counted on as last out of the chocks on a mover, avoiding the race for first place.

I've had a fairly good and safe alert record, and maybe, by keeping my head during those extra stressful times, I'll be able to extend it through the next horn.

Next time,. I'll tell you about my exciting C squares!

Many of you can probably recall experiences of a similar nature. If you will take time to forward us a brief synopsis we will pass them along in subsequent issues of Combat Crew. All entries will remain anonymous and should not contain identifying information.

CAST OUT INTO THE JUNGLE . . . VFR

Capt Pete Mapes
524 BS, Wurtsmith

At a recent meeting for alert crewdogs our DO mentioned that in light of the controller strike we had better bone up on our visual flight rules (VFR). Shortly after this exhortation I heard him mumble that he hoped we didn't need them too much for fear we would find out how much fun VFR flying is.

What are our VFR procedures? Outside of a page in AFR 60-16 we really don't have any. Unless you've been in combat or done some civil flying you probably have very little experience in the VFR environment. Up until now the Air Force hasn't needed VFR very much, so perhaps I can save you some grief. Remember, the civil and military pilots operate under somewhat different rules. Read on.

Mission Planning

Center is undermanned. "I'm sorry we can't accept an IFR at this time." The word goes out and you are mission planning. This means you cannot enter clouds on your flight. If there are clouds where you want to go, that is just too bad. On this flight the pilot provides clearance and you can't clear where you can't see. No longer is there a big radar eye to guide you through low visibility safe from other aviators. All of your navigational aids for approaches are so much war surplus without a clearance. You and your crew will be on your own.

Treat mission planning just as you would for IFR with the following exceptions. Pay particular attention to weather reports and forcasts. Remember that you must maintain the minimum visibilities and cloud clearances listed in AFR 60-16, Table 7-1; while your civil counterparts must maintain the minimum visibilities and cloud clearances listed in FAR 91.105 (see figure 1). In addition your destination forecast must not be lower than a 1500' ceiling or 3 statute miles visibility within one hour of your scheduled arrival time. If you can't comply with these requirements you may not fly. Icing may limit you as well. Aircraft not fully de/anti-iced may not perform VFR flight into known icing of light or greater intensity. The Air Force has precious few fully de/anti-iced birds.

There is no VFR in the positive controlled airspace (PCA) over the CONUS, so plan below 18,000′MSL. The lower altitudes increase fuel consumption and have the side effect of shrinking navigational aid service ranges (volumes). Terminal VORs are useable only below 12,000′MSL within 25 nautical miles (NM). Low VORS are useable to to only 40 NM below 18,000′MSL. High VORs are useable to 100 NM in the CONUS from 14,500′ MSL up to 17,999′MSL or 40 NM below 14,500′ MSL. Ranges on victor airways may be larger and have been flight checked.

You will want to choose altitudes to avoid the bulk of general aviation aircraft. By knowing their equipment requirements you can plan to avoid them. For instance, most of general aviation is unpressurized and lacking supplementary oxygen. This means they are restricted to "at or below" 14,000′MSL. Stay above this altitude and you avoid

ALTITUDE	FLIGHT VISIBILITY	DISTANCE FROM CLOUDS
1,200′ AGL or less, regardless of altitude above sea level		
Within controlled airspace	3 SM	500′ below. 1,000′ above. 2,000′ horizontal.
Outside controlled airspace	1 SM	Clear of clouds.
More than 1,200′AGL but less than 10,000′MSL		
Within controlled airspace	3 SM	500′ below. 1,000′ above. 2,000′ horizontal.
Outside controlled airspace	1 SM	500′ below. 1,000′ above. 2,000′ horizontal.
More than 1,200′AGL and at or above 10,000′MSL	5 SM	1,000′ above. 1,000′ above. 1 SM horizontal.

FIGURE 1. Basic VFR weather minimums.

the bulk of the traffic. You must fly hemispheric altitudes in cruise unless you are holding in a pattern with legs of less than 2 minutes, or within 3,000′ of the ground. VFR eastbound altitudes are odd thousands of feet plus 500′, westboud fly even thousands of feet plus 500′. There are no hemispheric altitudes within 3,000′ of the ground. It is easy to remember these altitudes by the mnemonic:

NEODD SWEVEN +500

So, to avoid most of the traffic and be legal, plan eastbound (magnetic course 000° to 179°) at either 15,500′MSL or 17,500′MSL, and westbound (magnetic course 180° to 359°) at either 14,500′MSL or 16,500′MSL.

For routing, the victor airways can simplify mission planning and provide guaranteed obstruction clearance as well as navaid reception. If you fly large (over 12,500 pounds) or turbojet powered aircraft you must stay at or above the MEA published on the low chart, or the MOCA when within 22NMof a navaid defining the airway.

When planning flights off of victor airways you must stay 1,000′ above obstructions during daylight. At night remain 1,000′ above the highest obstruction within 5 statute miles (SM) in nonmountainous terrain or 2,000′ above the highest obstruction within 5 SM in mountainous terrain. Remember that over towns you must stay 1,000′ above the highest obstruction within 2,000′ horizontally.

Plan to use VORs instead of TACANs for bearing information as much as possible. One crewmember should always be listening to the VOR for it will carry broadcasts of AIRMETs and SIGMETs. This weather information is of critical importance to VFR flight. Listening up on VOR voice could save your life.

Don't plan to exceed 250 knots indicated airspeed (KIAS) below 10,000′MSL. This violates FAR 91.70(a). By the way, the Air Force does have numerous exemptions and waivers to the airspeed and altitude parts of the regulations so continue to follow command directives. As soon as you leave a waivered area such as a low level route remember to obey the FARs. As a matter of fact it would not be a bad idea to get and read a current copy of FAR PART 91 and the Airman's Information Manual (AIM).

Finally, always leave yourself an out while flying VFR. Squawking 7700 and climbing through the clouds out of a route you were flying VFR will get you a violation, not a clearance.

Flying The Plan

So, the weather looks good and you're going to fly. If you have a maintenance delay remember to pass an updated departure time to the flight service station (FSS) you filed with (thru base ops). FSS only holds your VFR flight plan from an hour before your estimated departure to an hour after You'll have to refile if you forget to update the new time.

Turn all of your exterior lights on prior to takeoff and leave them on as much as possible. They won't do you any good off after a midair. Check your transponder mode 3A code to 1200 and your mode C enabled. Now tell tower you're number one.

After takeoff climb as rapidly as possible to 1500′ above ground level (AGL). YOU must open your VFR flight plan. Call the nearest FSS on 255.4 or 122.2 and do it. FSS will want your call sign, departure point, actual takeoff time, and destination.

A word about victor airways. They begin at 1,200′ AGL and extend up to 17,999′MSL. They are 4 NM each side of the airway in width until you reach 51 NM from a defining navaid when they expand at a 4½° angle to a width of 10 miles each side of route at a distance of 130 miles. When climbing or descending on a victor airway you should fly to the right of the defining centerline radial. Once you have leveled off correct to centerline and maintain the proper hemispheric altitude for your direction of flight.

During VFR transits through Airport Traffic Areas (ATA) and Terminal Control Areas (TCA) you must obtain a VFR clearance from the controlling authority. Keep your speed below 200 KIAS or fly the minimum safe speed for your aircraft if that is higher.

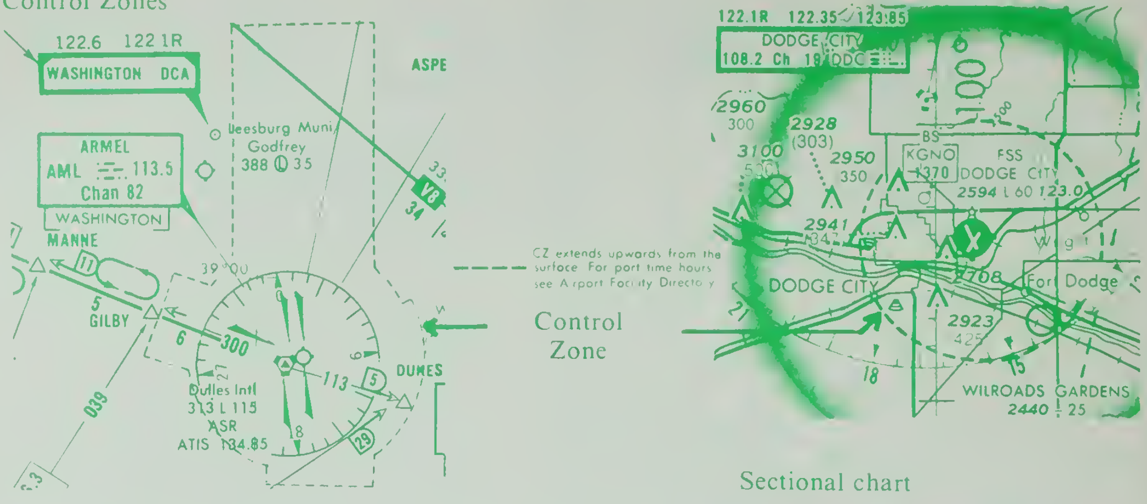
On a low level flight, one between the surface and 14,500′MSL, you must be aware that Control Zones (CZ) as depicted on low altitude and sectional charts, (see figure 2) are controlled airspace and cannot be entered VFR unless the appropriate visibility and cloud clearance criteria are met. If you need to enter a control zone, cannot maintain 3 SM or 5 SM visibility or the appropriate cloud clearance criteria, and can maintain 1 SM visibility and clear of clouds, then you may be able to get a special VFR clearance from the controlling authority, usually approach control. This technique is prohibited at airports with CZs depicted as in figure 3.

Right now is a good time to mention that if you find yourself in marginal VFR conditions, you should slow down as much as possible so you will have more time to see and avoid hazards. At 360 knots true airspeed (KTAS) an aircraft operating with three miles visibility will have less than 30 seconds to see and avoid other traffic.

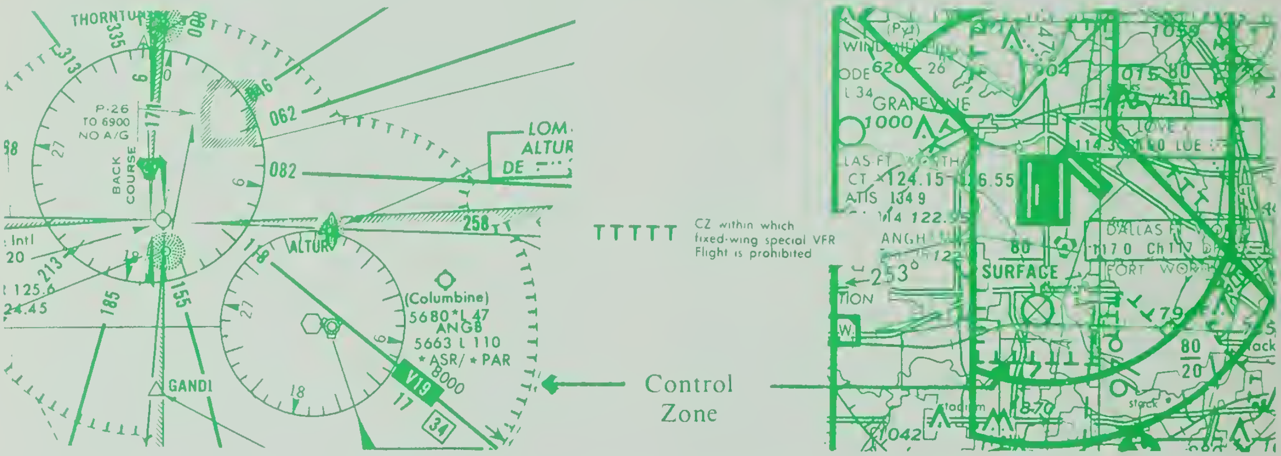
Planning on transiting Canada on your VFR flight? A few tips. You must be on a flight plan. If you had to cancel IFR before entering Canada, make certain you file and activate a VFR flight plan prior to crossing the border. Canadian controllers are pretty tolerant but they could violate you for ignoring this requirement. Don't fly VFR in

About the Author. Captain Mapes is an IP with the 524th BS and is a holder of the Federal Aviation Administration's Airline Transport Pilot and Instrument Flight Instructor Certificate. He is currently serving as an accident prevention counselor for GA00-8.

2. Control Zones



3. Control zones prohibiting fixed wing special VFR flight



Canada east of 114° west longitude above 9,500′ MSL, or west of 114° above 12,500′MSL without a clearance. If you can get a VFR clearance you may climb. By the way, Canadians don't add 500′ to the cardinal altitudes for VFR flight in the above mentioned "block airspace."

Enroute try to use VFR radar service. Come up on center or approach frequencies obtained from the low enroute charts or IFR supplement to request this service. If granted, you'll get a discrete squawk and occasional radar traffic data. You are still VFR and **not** guaranteed any radar separation. All this service provides is an extra set of radar eyes.

You must obtain your own altimeter settings to fly altitudes for traffic separation. Call any FSS within 100 NM of your route for this data. If an FSS that close isn't available, use the next closest one. Again, the UHF common frequency is 255.4. The VHF discretes are marked on the low charts and sectionals.

While flying VFR and not in radar contact it is a very good idea to make periodic position reports. The format is on the back of the FLIP enroute supplement. Make the reports to FSS, preferably at least each half hour. If you go down the reports will help search and rescue know where to start looking.

On approach and landing fly all VFR patterns at controlled airports at least 1,500′AGL. Stay at or above the glide slope on the instrument landing system and visual approach slope indicator until lower is required for a safe landing. At uncontrolled fields fly published patterns and altitudes.

Postflight

Close your VFR flight plan so FSS doesn't get irate and wake up the Civil Air Patrol to come looking for you. You have now completed your flight. You did it safely because you provided your own clearance with your own eyes. Well, my DO said you might like it! Happy flying.

What is this thing called...PRP

Captain Mary Dohr
HQ SAC/DPAAS, Offutt AFB

Each missile and B-52 crewmember in SAC has heard about PRP. But what is PRP and how does it affect these crewmembers?

PRP stands for the personnel reliability program and is governed by AFR 35-99 which incorporates the requirements of DOD Directive 5210.42. The Personnel Reliability Program was initiated in 1962 in the USAF and adopted in 1963 by the DOD. The program is designed to insure that each person who performs duties with nuclear weapons, weapon systems or critical components meets the highest possible standards of individual reliability.

Individuals who are assigned to a position designated as requiring PRP are screened immediately upon assignment notification. This screening includes a review of the field personnel records and medical records. Additionally, after screening these records, the unit commander must interview the individual concerning his/her attitude toward nuclear weapons, personal feelings and overall conduct. Every effort is made to identify, as early as possible, an individual who may not possess the highest possible standards of reliability.

In cases where there is a medical problem which is disqualifying for PRP, i.e., psychological problems, the individual is normally permanently decertified during the initial screening unless the problem is of a short duration. Permanent decertification is an assignment limitation code which insures that personnel who are not eligible for PRP duties are not selected for a PRP assignment. This permanent decertification code is reviewed annually beginning two years after the initial decertification. The code can be removed during a review if the reason for decertification has been eliminated and is not likely to recur.

For personnel that are certified for PRP duties by their commander, a continuous evaluation process is established. These personnel are continuously monitored by the base personnel office, hospital, supervisors and commanders. Personnel under PRP may be temporarily relieved of PRP duties through either suspensions or temporary decertification.

Suspension is a process which removes an individual from PRP duties for a period not to exceed 45 days. Suspension is normally used for such actions as medication, minor family problems or when an individual is under investigation. Temporary decertification, on the other hand, is a process which removes an individual from PRP duties for a period of up to 180 days. This action is accomplished by a letter of notification to the individual. Temporary decertification is primarily used when an individual is in either drug/alcohol rehabilitation or when the action is of a serious nature but will be resolved within 180 days.

Evaluating personnel who are under the PRP is not only a job for staff agencies, the supervisor and commander, but also for the coworkers and individual himself. The individual is often the one most aware of factors affecting his duty performance. For example, when an individual is having family problems. Often, no one else is aware of the problem. The individual should advise his/her commander that he/she is experiencing problems affecting his reliability. This allows the commander to make the best decision for the individual during this troubling time and consider his ability to work in a nuclear weapons/weapon system environment.

Additionally, individuals can aid in monitoring this program by noting any change in a person's behavior or attitude. This change must be brought to the attention of the commander. Suspension and decertification actions are not punitive in nature but rather serve as a safeguard for the individual and our nuclear components. It is everyone's responsibility to report behavior which they believe may affect our nuclear resources.

While our crewmembers have many responsibilities and duties, one of the most vital programs which they come in contact with is the personnel reliability program. Each member must be aware of what PRP is and what his/her responsibilities are. PRP is everyone's responsibility.

Twelve Thoughts of Christmas

Captain James M. Sullivan and
Captain Rhett T. Cooper
Instrument Division
1st Combat Evaluation Group
Barksdale AFB, Louisiana

“H”istory tells us an occasional review of the information governing the operation of our aircraft will improve the decision making process, particularly during critical phases of flight. This is certainly true when considering the multitude of directives that we must adhere to during instrument flight. To start our review of these procedures and regulations, let's look at some of the important points that have been covered in the “Big I” articles this past year. Remember, this is only the start of that *individual* review we all should complete periodically.

“A”s we look at an instrument approach procedure (IAP), always look first at the name of the approach. Determining your aircraft is equipped to shoot the approach is the start of your review. Keep in mind the name of the approach only indicates the equipment needed to fly from the final approach fix to the missed approach point. For example, did we look at the missed approach procedure? How can a VOR only equipped aircraft follow the missed approach instructions to a DME fix? We do need to look at the name of an IAP first. Just as important, we must determine what equipment is required to arrive at the final approach fix and to execute the missed approach. Simply put, when flying into a strange field, the old “quick and dirty” approach review and briefing may not suffice. We understand Santa spends weeks reviewing and briefing his reindeer on many IAPs. Along the same line, the new Selected Low Altitude terminal approach books reduce bulk in the cockpit but do not include every usable approach to the destination airfield. Santa uses the *full* Low Altitude set which includes IAPs for short runways.

“P”erhaps what every pilot needs is a greater awareness of weather phenomena and particularly that which is termed “thunderstorm.” AFM 51-12, *Weather for Aircrews,* is an excellent source of information when discussing this subject. For those of you that doubt the damage even a small “thunder-bumper” can inflict on an aircraft there is a simple rule of thumb to follow: Stay away! Imagine what hail would do to Rudolph's nose! AFR 60-16 and supplements provide guidance for Air Force pilots flying in the vicinity of thunderstorms. Specifically, we are directed to alter route of flight to avoid the thunderstorm activity: “There is no peacetime mission that requires . . . penetration.” Two other points to remember are never fly under a thunderstorm and if you inadvertently find yourself in one, *don't turn back.* In almost every case the fastest way out is straight ahead. This will drastically reduce the stress which would be placed on the aircraft's structure during a 180 degree turn in turbulence. Use everything available to avoid questionable weather, e.g., aircraft and ground radar, pilot reports, PMSV, and by all means pay attention during preflight weather briefings.

“P”oor planning is often the result of a lack of knowledge. How can we hope to “fly it right” if we can't “plan it properly”? Change 1 to AFM 51-37, *Instrument Flying,* hit the newsstands in April of this year. Did you devote adequate time to a thorough review of this document that is a primary key to our survivability? The major changes we should become intimately familiar with are: Missed Approach and Holding Procedures, Radar Vectors, and Visual Cues when landing from Instrument Approaches. These major revisions and other significant changes were covered in the September “Big I” article. If you missed the article or haven't reviewed AFM 51-37 recently, now is the time to ask Santa for a copy! Take time to review this “best seller” once more — it's excellent reading and again — a primary key to our survival.

“Y”es, Sully, there is a Santa Claus who brings toys; e.g., small toy aircraft and *mounds* and *mounds* of regulations and directives for us to read, put to memory and employ. Notice we said “employ” and not “enjoy,” for the enjoyment comes inflight *after* we have read, put to memory, and properly employed our new found knowledge which results in smooth, efficient aircraft operation. Two books you may find under the tree this Christmas are called FLIP General Planning and the Airman's Information Manual (AIM). These documents are loaded with “need-to-know” information for all crew members. Inside, you'll find the answers to questions such as these: What ATC clearance should be read back by pilots during cruise? What are the pilot responsibilities when “cleared for visual approach”? Does a “VFR Condition on TOP” clearance provide traffic separation? How do we set up a holding pattern when the aircraft reaches a clearance limit and holding instructions or further clearance have not been received? If you want to become an expert in the area of instrument ground rules, FLIP and AIM are two excellent pieces of literature for your library. A thorough working knowledge of these books and other pertinent directives will allow you to devote your fullest attention to *performing* precise instrument maneuvers rather than “shooting from the hip” when you have a handful of airplane.

“H”ow did a “Big I” article titled “VFR” slip into Combat Crew? Better yet, why discuss visual flight rules? Well, it's been a long time since some of us operated VFR on a daily basis. Some SAC pilots have never operated under VFR on routine training missions. However, to operate VFR and safely accomplish our training requires professional “heads up” airmanship. There are a few things we need to keep in mind when VFR. First and foremost, *clear, clear, clear!* Remember, your signature on the flight plan is your clearance to operate VFR under the “see and avoid” principle. Second, VFR does not mean we can't use the instrument aids available to us. Our aircraft are equipped with navigational aids (including radar) which should be used for departures, enroute navigation and arrival. Communication procedures will be somewhat different. Good preplanning and a strong “listening watch” of the radios are mandatory to the success of the mission. Remember to adhere to VFR hemispheric altitudes. Basically, when flying East you should fly at odd thousands, plus five hundred feet; e.g., 13,500. The converse is true for Westerly headings: fly even thousands plus 500 feet, such as 10,500. Also, AFR 60-16 states that pilots will not fly aircraft above 3000 feet AGL at altitudes other than those specified in FLIP. We can operate on VFR airways but the maximum airspeed below 10,000 feet MSL is still 250 KIAS (except when operating under the exemptions in AFR 60-16, e.g., MOA's, IRs, VRs, etc.). During transition, close coordination between pilots and controlling agencies will eliminate much confusion such as requesting traffic separation on a missed approach. This requires prior coordination and ATC approval. The bottom line — think *flexibility* and *responsibility*. Flexibility: Safely share the airspace. Responsibility: Avoid other aircraft. Unfortunately, Rudolph will not be there to guide your plane.

“O”ceanic procedures for SAC pilots was the subject of our February '81 article. We referred you to the FLIP Enroute IFR Supplement for USAF HF SSB airway departure reporting procedures and frequencies. This information is now contained in the FLIP Flight Information Handbook. The trusty old IFR Supp, Sec D, is now “intentionally left blank.” Do you remember what is included in your oceanic position reports? How frequently or at what points should these reports be made? If the answers don't come right off the top of your head, take a quick look at FLIP GP before your next overseas jaunt. By the way, Santa has a waiver — he operates “due regard.”

“L”ost communication procedures have been a subject of many calls to us at CEVG and to the CFIC folks. In most cases, the inquiries concerned specific situations (such as lost comm procedures enroute descents) which are no longer clearly outlined in FLIP. The trick is called pilot judgment — the catch-all that puts the reindeer on your back.

Continued on Page 20

MAPLE FLAG 7

Captain Thomas A. Gaj
69BMS, Loring AFB, Me.

Maple Flag is the Canadian equivalent to TAC's Red Flag. Like its American older brother, this exercise is designed to increase the combat proficiency of participating aircrews by providing realistic simulated combat in a realistic environment. As in Red Flag, flying units from USAF, Canadian Armed Forces, and the RAF are regular participants.

What sets Maple Flag apart from Red Flag is geography. Training is conducted in the Canadian Forces Base Cold Lake ranges and surrounding areas. Located some 150 miles northeast of Edmonton, Alberta, the ranges consist of heavily wooded, flat and rolling terrain, contrasting sharply with the rugged, mountainous desert of the Nellis range. Approaching Cold Lake from the north provides exposure to arctic terrain. All in all these ranges provide an excellent simulation of terrain found in northern and central Europe.

Maple Flag 7 began on 4 May 1981, and SAC participation opened up the next day with strikes by three 42 BMW B-52s. Crews E-28, R-26, and R-29 from the 69 BS were assigned to the mission. My crew, 28, was to be lead.

Two days were allotted to mission planning. Friday, 1 May, was devoted primarily to chart preparation and briefings. On Monday, 4 May, several flight planning discrepancies were worked out. Most important in everyone's mind was low level timing. With only three minutes between aircraft, with number two diverging to strike a different target before rejoining the stream, time control would be critical. The three navigators spent considerable time working out what they thought was a satisfactory solution.

Instead of briefing by crew position, our crew chose to brief by event, with each crew member detailing his actions at specific points. We paid special attention to the low level route into Cold Lake, and to the bomb runs in the range itself. Although we train against simulated ground threats in our stateside STRs, Strategic Training Routes, we do little defensive maneuvering against ground or airborne threats at TA Terrain Avoidance altitudes. Here was an ideal opportunity to practice what we usually only read or talk about. Much time was spent discussing tactics, their effects on navigation, and how aggressively we wanted to maneuver during actual bomb runs. By the time we finished we were sure we had covered every contingency.

Tuesday, May 5, was the big day. After a 0826L Minimum Interval Take Off and refueling a few problems began to arise. Number three lost mapping radar shortly after takeoff, and was forced to initialize its Short Range Attack Missile off number two's wingtip. On board our own aircraft, the SRAM had apparently decided it wanted no part of any trips further north and went south instead, repeatedly defying Lt. Doug Schrag's attempts to correct the divergence.

Despite these problems, the rest of the high level route was flown as briefed. Cell lead changes and a cell defensive control exercise were accomplished with no difficulty. At 1702Z Lead entered Canada and 25 minutes later descended into the low level route that would take us into Cold Lake.

The first part of the route presented no particular problems, and navigation was straight forward for both nav and pilot teams. Enough prominent features were visible so that a minor heading error and erroneous bombing navigation system counters were quickly detected and corrected.

As we drove further north, however, the terrain began to change, becoming less distinct. The numerous small lakes were surrounded by marshes or hidden by low rolling hills and parallel ridgelines. The operational navigation charts ONC available to the crews for this flight were just not accurate enough for use in these conditions, especially at the low altitudes we were flying at, giving only a partial indication of what the terrain was really like. What was depicted a sharp, distinct shoreline was frequently blended into swamp. The remains of the winter's ice and snow also blurred the boundaries of water and dry land, or just plain changed their shape. This tended to hamper both visual and radar navigation, and as altitude restricted radar range, terrain features and offsets tended to be less distinct or completely hidden.

By relying on time and heading, plus careful coordination with the copilot for rare visual cues, the radar navigator and Nav were able to maintain our course until we turned south and the terrain gradually began to match the charts again.

During this leg the timing problem we had tried to avoid during mission planning occurred. Aircraft number two began to call for us to increase speed and our gunner was able to confirm that he was closing on us. Fortunately, the weather was VFR and two had us visually most of the flight, so there was never any serious problem.

Thus far, only sporadic threat activity was encountered. Fighters would pass us by, but never engage. We had received word to contact AWACS, but were unable to do so on the frequency provided. At the same time our F-15 MIGCAP passed a request for support jamming in the target area.

After two hours, we entered the Cold Lake range. The first bomb run went extremely well thanks to

Continued on Page 22

Continued from Page 17

While enroute procedures are fairly well spelled out in the Flight Information Handbook, pilots still have some questions regarding lost comm during arrival. Think ahead! Coordinate your own lost comm procedures if you feel it necessary. Have a plan at all times and you'll be well ahead of the game.

"I"LS and other terminal approach procedures are the meat of instrument flying. As a quick review, if you are approaching a 10,000 foot runway with a solid state localizer antenna located one thousand feet beyond the departure end, what is the width of the localizer beam? a. 4.0°, b. 3.6°, c. 5.0° d. 3.0°. If you have a June '81 *Combat Crew* handy, the answer should be easy. As you're all well aware, the "tailored" solid-state greatly affects the sensitivity of your CDI movement in the cockpit. Long runways mean increased sensitivity. As a *guide,* CDI casebreak may be considered an on-course position within 18 miles when executing an ILS approach to a long runway. If being vectored to the localizer, remember that the localizer may be as narrow as three degrees. Be especially alert for initial movement of the CDI to prevent unacceptable course overshoots. (The rotund red-suiter computes the localizer width in the above situation to be 3.6 degrees.)

"D"eparture procedures should probably be discussed before arrival, but it's tough to do that and spell "HOLIDAY." Our only holiday tip on departure is one based on yule fuel conservation. Although we realize that all units operate under various air traffic restrictions, we encourage use of the most efficient departure profile available. If a SID will meet that requirement, file the SID. However, if a radar departure on course will get you onward and upward quicker, save the gas and request that profile. On the same subject, we hope you've refined your own techniques in your aircraft to save fuel using enroute descents. Petrol is too valuable to waste and we're running short of reindeer.

"A"ttitude instrument flying is either an art, a science, or both. In any case, it's the foundation of every instrument maneuver performed. Think *pitch, power,* and *trim!* Rudolph, Santa's Flight Lead, seems to have developed one of the best cross-checks going. He's logged thousands of accident-free hours in hazardous flight conditions. He's also up to speed on the latest navigation procedures. (He told us that RNAV sure beats beacon navigation!) We also hope he's CAT IIIC, throttle-coupled, when landing at some of his zero-zero destinations!

"Y"es, Rhett, I agree — there is a Santa Claus. He's brought us all the tools and toys we need to be the safest instrument pilots in the world, second to Rudolph and the Bearded One, himself. Certainly we don't have their experience making as many low visibility instrument approaches, but collectively we've sure logged the navigation miles. If we stay sharp and follow sound procedures, we're going to get the most out of the toys Santa brought. Who knows — if Santa's elves work hard, he may even bring new toys next year.

Merry Christmas and Happy
New Year from Sully,
Chris, and Rhett

SANTA
1
YOU JUST MISSED YOUR APPROACH IF YOU CAN READ THIS!!
& YOU'D BETTER PULL UP!!

Continued from Page 19

the coordination between pilots and navs. There were a few problems due to our low altitude. Offsets were hidden by hills and tracked down the radar scope rapidly when they finally appeared, but a pop-up of as little as 100 ft. made all the difference. With the pilots backing up visually, the RN put the "weapon" right on target.

It was close to ten minutes after we entered the range before we encountered any opposition. We had just pulled our airspeed back to kill the time we'd gained trying to maintain separation from number two when we picked up a fighter in search mode. After hanging back at about 4000 yds., he finally broke off. Two minutes after we got rid of him we ran into the AAA. While evading this threat we finally heard from AWACS:

"Buf 15, Brochure Threat Control, Bandits your one o'clock, 15 heading east."

Then

"Buf 15, bandits, Twelve o'clock high."

As we began our second bomb run we were engaged by multiple fighters and very persistent AAA. Maneuvering to avoid these threats terminated at 60 time to go as we popped over a ridgeline, released, and ran into another AAA which had been masked by terrain. At the same time, the fighter at our twelve o'clock, called out earlier by AWACS, reversed his parallel course and roared over in a head-on visual attack, rolling up and over us from several hundred feet.

The third release saw us engaged not by fighters or AAA, but by a rather large bird, which with appropriate warning and evasive action managed to evade us.

After shaking two more fighters we pulled out of the route as scheduled and headed for home. Both two and three used a different timing schedule and during the three-hour drive across Canada we ended up in the trailing position, landing last at 2011L. First in-last out.

What did we get out of Maple Flag 7 besides some good war stories? Several lessons were learned.

Navigation at TA altitudes over indistinct, variable terrain makes for the ultimate in radar scope interpretation problems, but it is never impossible. Offsets, if chosen carefully, are visible, if only for a short time. To find them requires a constant cross check on all systems, careful RSI, and the use of the BEST available data for mission planning and navigation.

According to Capt. Bob Blum, our RN, as little as 100 feet can change the whole world. You don't have to climb too high to be able to see over those low rolling hills and find that offset that was hidden at the lower altitude. At the same time, you don't have to scrape the antennas off your big green lizard's belly to evade a threat if you descend quickly and aggressively.

It is also possible to deviate from course centerline for defensive maneuvering and still strike a target effectively, if the crew is prepared to do so. This applies espcially to Defensive Action Bomb Runs. Crews that offset themselves from centerline so that they maneuver back to centerline are doing their nav teams no favor. Offsetting yourself in wartime may be impossible, and at any rate cannot be done for an unexpected threat. Learning to regain bomb run heading after maneuvering is a valuable tool.

Maple Flag provides a valuable supplement to normal training. While the threat environment is not as varied as at Nellis, the Canadians use their equipment aggressively and effectively. The problems of low level navigation over flat and rolling tundra and forest contrast sharply with those of mountainous desert and more closely approximate those we may face in a real world situation. SAC aircrews can benefit greatly from participation in these exercises.

SAC-MAC Crossflow Program

Interested in a little career broadening? HQ SAC DPROR has announced they will be selecting four qualified pilots in January to crossflow to MAC throughout CY 82. Applications for entry into the program will be by AF Form 90. In order to qualify you must be a KC/RC/EC-135 pilot, major or below, with a minimum of 1250 total hours. Presently this program is limited to the C-141; however, a possibility exists for assignment into other weapon systems such as the C-5 or C-130. Any further questions concerning the program can be directed to Captain Lichte, HQ SAC/DPROR, Chief, Tanker Career Management Section, Autovon 271-4260, 4298.

CFIC CORNER

THE "D" MODEL GUNNER — ON HIS OWN

Applicability: All B-52D Gunners

MSgt Leonard E. Griswold
CFIC, Carswell AFB, TX

The requirement to wear a helmet inflight for the Gunner of the B-52D is relatively lenient when compared to past requirements. Some of you may recall when the "Tall Tail" Gunner complied with the old "one pilot" requirements in AFR 60-16. Current inflight helmet requirements have eliminated the need for the D model Gunner to wear the helmet throughout the entire flight. Although these requirements are considerably less restrictive, they could contain some serious hidden hazards.

Some of our more recent additions to the gunnery career field shed the helmet for their headset immediately after the initial oxygen check. Standard practice is then to stow the helmet between the line of sight pointer and the canopy. They are now comfortable with a headset on and in compliance with AFR 60-16. Everything appears fine so far. But, let's examine more closely the situation just described.

Not only has the Gunner's helmet been stowed but his oxygen mask has also been stowed along with it. As long as the pressurized aircraft is below 45,000 feet and the mask is within arms reach (readily available), compliance with AFR 60-16 is still maintained. But consider what would happen if we were involved in an aircraft incident such as this: "The aircraft was level at flight level 37,000 feet and in VMC conditions when a window of the Gunner's compartment failed and a rapid decompression occurred. The Gunner's compartment low pressure light in the forward compartment illuminated. The aircraft was placed in an immediate emergency descent."

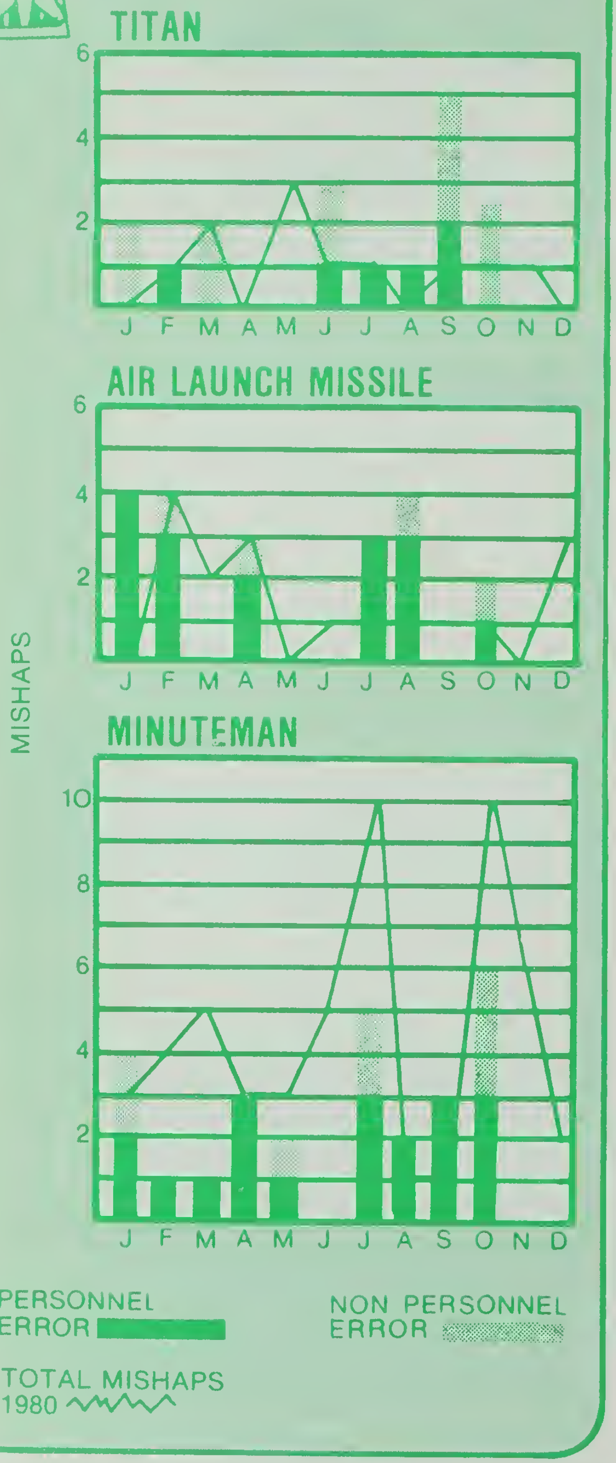
In an incident such as this your first reaction is to get that oxygen mask on. At that altitude, with the resultant high differential between the pressurized cabin and outside air pressure, a failed window will surely cause everything not fastened down to exit out the hole where the window used to be. This includes your helmet and mask that was stowed next to the canopy. What do you do then?

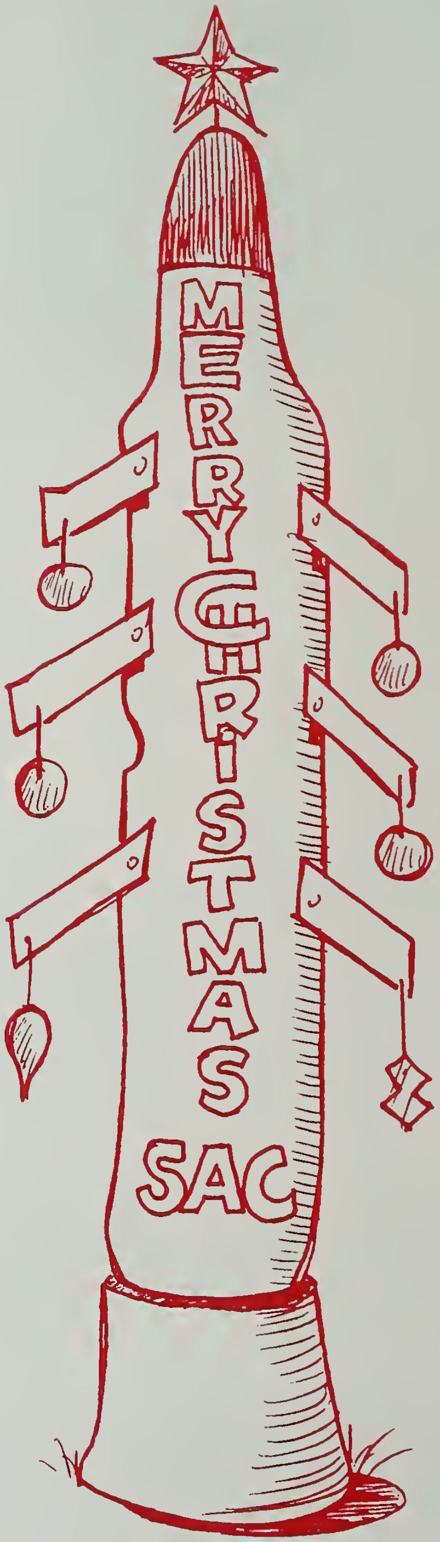
AFR 60-16 and the SAC supplement prescribes the minimum helmet requirements. Nothing precludes the Gunner from going beyond those minimum requirements by wearing his helmet for the entire flight. The discomforts associated with wearing the helmet for long periods of time have been greatly reduced. The Air Force has expended a considerable amount of money to ensure you are issued a comfortable helmet. Additionally, the Aircrew Life Support Section goes through great lengths to fit you with a custom made helmet.

In reality though, the Gunner on a D model is on his own if an emergency arises. Being separated from the rest of the crew by 156 feet of aircraft fuselage, he must look after himself. Common sense and a deep concern for your own personal safety are just two among many reasons to keep that helmet on throughout the entire flight.

1981

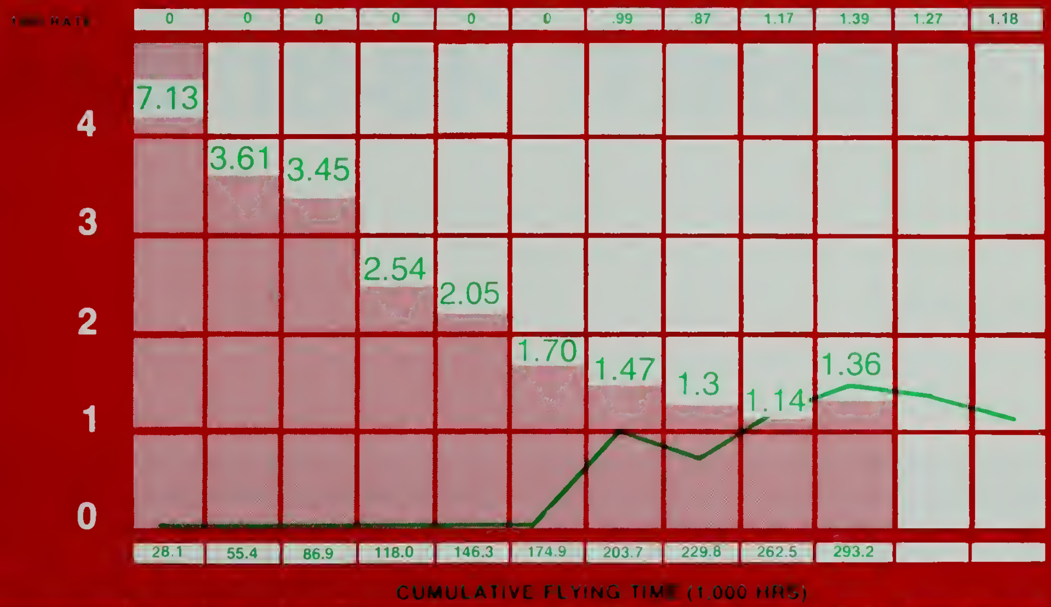
Space & Missile Mishap Experience





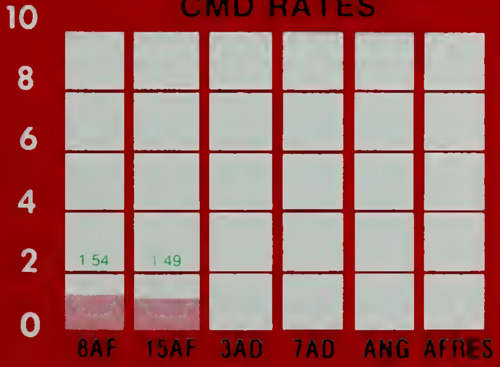
1981 Flying Safety Rate

SAC CLASS A MISHAP RATE (PER 100,000 FLYING HRS)



MISHAPS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1980	0	0	0	0	0	0	2	0	1	1	0	0
1981	2	0	1	0	0	0	0	0	0	1		

1981 SUBORDINATE CMD RATES



LEGEND [illegible]

MISHAP STATUS

KC-135 A	JAN '81
FB-111A	JAN '81
RC-135S	MAR '81
B-52D	OCT '81

r&d corner

FB-111 SRAM AI

Major Marc C. Turner
HQ SAC/XPHC

This month's R&D corner looks at an addition to the FB-111A that will provide the aircrews greatly increased SRAM proficiency. The addition is called the SRAM Airborne Mission Trainer (SAMIT). SAMIT is being developed by the Boeing Company, Seattle, Washington, and will be fully developed by May 1982.

The purpose of SAMIT is to provide FB-111A aircrews the capability to realistically practice SRAM missions inflight without SRAM missiles aboard. This will be accomplished by development of a Missile Simulator Connector Assembly and will be installed at the pylon stations as well as in the weapon bay to simulate SRAM on training flights. In addition to the hardware, new software will also be developed to provide the necessary simulations. Both hardware and software modifications will be discussed.

The deliverable end-item (missile simulator) is a 3″x2-½″x7″ box consisting of a missile umbilical receptacle and three relays. The missile simulator functions much like the B-61 Simulator Plug in that it provides electrical continuity through the FB-111A Stores Management System to enable operation of the hardwired weapon status functions on the cockpit control and display panels. The SAMIT connector assembly will be installed at the pylon station enclosed in a fairing which will provide structural support. A mounting bracket will be used in the weapons bay to secure the assembly.

The software modification includes new operational software as well as new software necessary to perform maintenance and checkout procedures. The FB-111 SRAM master computer software will be modified such that system operation will proceed with missiles simulated for those locations uploaded with SAMIT hardware. (SAMIT operation is inhibited with SRAM on the aircraft.)

The FB-111 master computer (MPDC) software will be designed to process all functions necessary to provide realistic crew training. Specified items to be included in the software are (1) simulations for missile alignment (coarse and fine align, and TAL maneuver status); (2) 15 minute and 45 second launch countdown holds and (3) a Circular Error Probable estimating algorithm.

In addition to the SAMIT related software, a group of additional software changes will also be made which will improve FB-111 training and post-mission analysis. The following additional changes will be made:

a. The existing launch scoring software will be deleted and replaced with more meaningful data for post-mission operations and maintenance analysis.

b. A record will be mechanized which will provide the time of operator initiated application or removal of missile power.

c. The FIRT table will be expanded to record 50

BORNE MISSION TRAINER

faults for post-mission print-out.

d. A record will be developed which will identify the state of the required launch prerequisites at the time a launch attempt is made.

e. Incorporate a SIC to allow application of missile electronics power when status indicates missile conditioning air is not present (EWO only).

f. Active FIRT will be cleared at computer start-up.

g. The SRAM lamp and the Master Caution Display will illuminate when a SRAM master malfunction is detected.

h. A cumulative timer for event recording will be provided to establish the zero time for referencing mission data.

i. SIC 319+0 will be revised to prevent inadvertent setting of the ground launch flag.

j. Data for post-mission print-out and analysis will be recorded when a Z-velocity or alignment no-go occurs.

k. A SIC 318 revision will be made to allow access of all MPDC memory locations for display via the Computer Control Unit (CCU).

l. The 15 minute hold timer as currently mechanized will be deleted. The hold will only be entered if the delivery mode knob is in the SRAM/auto position more than two seconds. These twelve items plus six other minor changes will all be provided as part of the new SAMIT software.

SAMIT will function with the accomplishment of normal SRAM checklist procedures without the aircrew having to perform any SAMIT peculiar function to utilize the system. (The only exception is the Release Enable Switch which must remain in the inhibit portion). Each SAMIT connector will represent a SRAM. Once power is applied to the SAMIT system, the software is mechanized to provide the appropriate time delays through the fine alignment period. At launch, the correct cockpit indications are received with one exception. The missile present/away switch on the ejector must be secured in the closed position to provide continuity for the missile present/away monitor circuits to the AMAC SPU and CPDU. Therefore the stores present indication will remain illuminated. Once a "launch" has been accomplished, SAMIT is capable of being repowered for additional training and subsequent launches. Since SAMIT was only designed for routine training sorties the hardware was not designed for supersonic activity. With this one exception SAMIT will operate throughout the SRAM carriage envelope of the FB-111.

The SAMIT device will assure aircrew proficiency with the SRAM and will relieve the maintenance complex from loading SRAM on training sorties. It is in no way detrimental to the operational concepts for the FB-111A weapon system. SAMIT is a technological opportunity that will make a positive contribution to mission effectiveness.

PROFESSIONAL PERFORMERS

• IGFM Crew of the Month

Crew S-202, 381st SMW, McConnell AFB, is Strategic Air Command Crew of the Month. Crewmembers are MCCC Capt Rudy E. Esquivel, DMCCC 1Lt Hubert H. Hill, BMAT SSgt Michael R. Riemer, and MFT SSgt Gary M. Hansen.

During an automatic transfer to standby power, the dampers in the silo failed to reposition and the diesel fuel pumps failed to come on. The BMAT and MFT immediately donned chemox and entered the silo to manually reposition the dampers and turn the fuel pumps on. Meanwhile, the MCCC and DMCCC smelled burning insulation and observed smoke from level one of the control center and immediately implemented the fire manual checklist. They noticed that the exhaust fan, EF-101, indicator was not lit on the control panel and concluded that the fire was in the exhaust fan motor on level one of the center and placed EF-101 in the off position. The BMAT and MFT returned to the control center and verified that the fire was out. The crew processed the emergency actions checklist in concurrence with the missile potential hazard team and the hazard was terminated.

At this time the MCCC and DMCCC noted the diesel engine malfunction indicators were illuminated and began preparing for silo entry.

While the MCCC was performing the silo entry checklist, the DMCCC noted that the surface gate open light was illuminated on the console and immediately entered the security alarm checklist, while the MCCC expeditiously completed silo entry.

The BMAT and MFT dispatched and determined that the steam separator required draining. The MCCC and DMCCC completed the security alarm checklist and the security police investigated and terminated the situation. The prompt and decisive actions of Crew S-202 prevented extensive equipment damage.

• Safety Officer of the Month

Capt Richard W. Rock, 400 SMS Safety Officer, is SAC Safety Officer of the Month. He has completely revised the 400th SMS Safety Management Book into an "error free" document. He developed an initial one-to-one safety briefing for all incoming squadron personnel. He and his squadron have authored and submitted 18 safety articles and MPBs for wing and SAC publications. Under his leadership, the 400th SMS has won the Group III TOPSAFE award for five consecutive quarters. On his initiative, Capt Rock became a certified instructor for the National Council Defensive Driving Course. He teaches the course to military, civilian and dependent personnel as well as Cheyenne residents. He is an active member of the Wyoming Safety Council. He also helped plan and personally solicited prizes for the Wing Seat Belt Promotion. He has organized his fellow squadron members into an effective "Make It Click" publicity unit. They got the word out at Warren!

• Maintenance Airman of the Month

SrA Thomas A. Hicks, 340th Consolidated Aircraft Maintenance Squadron, is Strategic Air Command Maintenance Airman of the Month. His superior system knowledge, willingness to work, ability to communicate and capability to apply techniques in a practical sense have made him an invaluable asset.

Because of his knowledge and commitment to producing quality maintenance, he was selected to prepare the periscopic sextants, utilized by navigators for celestial orbits, aboard the 340th AREFG's GIANT VOICE aircraft. The sextants he prepared provided error-free information. He was assigned the project of fabricating new electrical wiring harnesses for modifying TF-33 engine test cell to accept the J-57 engine. This project required many hours of planning design, researching parts, and actual fabrication and fitting of harnesses to the test cell. This project had not been accomplished previously; therefore, no tech data or schematics were available. Using his knowledge of wiring harnesses, he measured lengths of wire required and ordered necessary cannon plugs and hardware, and manufactured the harnesses. These harnesses were ready for installation just three days after assembly began.

Airman Hicks' dedication and technical skills have won him the admiration of his superiors, his unit, and the Strategic Air Command.

SAC
SAFETY SCREEN

28 BMS, Robins Crew E-34: IP Capt Richard B Fillyaw, CP 1Lt Kenneth L Weaver, RN Capt David M Hillstrom, N 1Lt Gerald E Valentini, EW 2Lt Terry A Harpool, AG Sgt Joseph E McCollum

912 AREFS, Robins Crew E-105: P Capt Bernard V Traynor III, CP 1Lt Philip H McBride, IN Capt James N Tucker, IBO SSgt Kenneth A Mathis

912 AREFS, Robins Crew E-118: P Capt Robert A Orwig, CP Capt Charles M Siegler, IN 2Lt Judd R Bean, IBO SSgt Bernard J Carley

51 BMS, Seymour Johnson Crew E-07: P Capt Jerry L Maxwell, CP Capt Thomas McCown, RN Capt Arthur J Farrington, EWO Capt John H Voss, N 1Lt George D K Walker, G SSgt John H Johnson

911 AREFS, Seymour Johnson Crew E-116: P Maj William P Applegate, CP 2Lt Bradley C Bartholomew, N Capt Joseph C Guillot, BO Sgt Larry J Roberts

340 BMS, Blytheville Crew E-13: AC Capt James R Greathouse, CP Capt Earle L Lund III, RN Capt Mark R Thessing, NN Capt Miguel A Droz, EW 1Lt James E. Solinski, AG Amn Robert L Wiggs

340 BMS, Blytheville Crew R-31: P Capt Larry J Houser, CP Capt Anthony E Riegling, RN Capt Thomas D Brown Jr, NN 1Lt John R Durrer, EW Capt Edward T Goddard Jr, AG SrA Michael R Cook

97 AREFS, Blytheville Crew R-106: AC Capt Gerry D Wolfe, CP Capt William J Willson, NN Capt Charles McPherson, BO A1C James M Boozer Jr

97 AREFS, Blytheville Crew R-122: IP Maj Gary T Grieshop, P Capt Jack L Jordan, CP 1Lt Gary L Cooper, NN Lt Paul J Lewis, BO A1C Jerry D Erickson

916 AREFS, Travis Crew R-111: P Capt Kenneth C Carlson, CP 1Lt Gary M Schull, N 2Lt Robert L Brown, BO SSgt Robert S Page

22 AREFS, March Crew R-111: FP Capt Gary C Copelin, CP 1Lt Claude J Phene II, NN 1Lt Thomas G Green, BO SSgt Terry J Barber

46 BMS, Grand Forks Crew R-15: P Capt Richard O Melvin, CP 2Lt Richard E Smith, NB Capt Michael E Uecker, IN 1Lt Jeffrey A Zink, NE 1Lt Martin S Remedes, AG Sgt Delmont L Wilfong

905 AREFS, Grand Forks Crew S-130: P Maj Clifford E Smith II, CP 1Lt Wayne Y Koide, NN 1Lt William V Hubbard, BO TSgt Harold E Hamilton

5 BMW, Minot Crew R-25: P Capt Stephen L Brooks, CP 1Lt Walter H White, RN Capt James A Petrilli, NN 1Lt Michael W Ross, EW 1Lt William E Robinson, AG SrA Joseph P Flaningam

5 BMW, Minot Crew E-120: P Capt John E Patacca, CP 1Lt John E Butcher, NN 2Lt David J Swonger, BO A1C Paul I Bouza

351 SMW, Whiteman Crew E-144: MCCC 1Lt Wayne Goodman, DMCCC 2Lt Charles Hajko

308 SMW, Little Rock Crew R-048: MCCC 1Lt Michael Mancusi, DMCCC 1Lt Albert Hamel, MSAT TSgt John Ferguson, MFT SrA Michael McMullan

390 SMW, Davis-Monthan Crew S-171: MCCC Capt Robert J Pekny, DMCCC Capt Charles G Divelbiss, MSAT A1C Martin E McDaniel, BMFT SSgt James F Paulus

341 SMW, Malmstrom Crew S-205: MCCC 1Lt Robert A Jackson, DMCCC 1Lt Gary D Curry

44 SMW, Ellsworth Crew R-082: MCCC Capt James W Spiva, DMCCC 2Lt Ernest Jones Jr

90 SMW, F E Warren Crews R-179 and E-181: MCCC Capt Gerald R Daub (R-179), DMCCC 2Lt Kelvin R Nathaniel (E-181)

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW SACR 127-2*.

HALL OF FAME

TACTICAL FLYING

OVER TWENTY-FIVE YEARS

170 AREFG, McGuire (NJANG)	Feb '56

OVER TWENTY-THREE YEARS

171 AREFW, Greater Pittsburgh (PAANG)	Mar '58
157 AREFG, Pease (NHANG)	June '58

OVER TWENTY-TWO YEARS

940 AREFG, Mather (USAFR)	May '59
307 AREFG, Travis	Sep '59

OVER TWENTY YEARS

151 AREFG, Salt Lake City (UTANG)	Feb '61
161 AREFG, Sky Harbor (AZANG)	Apr '61
126 AREFW, Chicago O'Hare (ILANG)	Apr '61
134 AREFG, McGhee Tyson (TNANG)	Aug '61

OVER NINETEEN YEARS

11 SG, Fairford	Feb '62
340 AREFG, Altus	Jun '62
96 BMW, Dyess	Aug '62

OVER EIGHTEEN YEARS

19 BMW, Robins	Aug '63

OVER SIXTEEN YEARS

160 AREFG, Rickenbacker (OHANG)	Dec '64
320 BMW, Mather	Jul '65

OVER FIFTEEN YEARS

452 AREFW, March (USAFR)	Sep '66

OVER FOURTEEN YEARS

92 BMW, Fairchild	Feb '67
55 SRW, Offutt	Jul '67
2 BMW, Barksdale	Aug '67

OVER TWELVE YEARS

5 BMW, Minot	Feb '69
42 BMW, Loring	Sep '69

OVER ELEVEN YEARS

141 AREFW, Fairchild (WAANG)	Oct '69
28 BMW, Ellsworth	May '70

OVER NINE YEARS

101 AREFW, Bangor (MEANG)	Mar '72
306 SW, Mildenhall	Apr '72
416 BMW, Griffiss	May '72
305 AREFW, Grissom	Aug '72

OVER EIGHT YEARS

379 BMW, Wurtsmith	Apr '73

OVER SEVEN YEARS

931 AREFG, Grissom (USAFR)	Feb '74
384 AREFW, McConnell	Mar '74
189 AREFG, Little Rock (ARANG)	May '74

OVER SIX YEARS

43 SW, Andersen	Dec '74
68 BMW, Seymour Johnson	Sep '75

OVER FOUR YEARS

410 BMW, K.I. Sawyer	Apr '77
190 AREFG Forbes (KSANG)	Apr '77
128 AREFG Milwaukee (WIANG)	Jul '77

ICBM

OVER SEVENTEEN YEARS

1 STRAD, Vandenberg	Sep '64

OVER ELEVEN YEARS

341 SMW, Malmstrom	Apr '70

OVER EIGHT YEARS

390 SMW, Davis-Monthan	Jul '73
351 SMW, Whiteman	Oct '74

OVER SIX YEARS

91 SMW, Minot	Nov '74

OVER FIVE YEARS

321 SMW, Grand Forks	Feb. '76

To gain listing in the Hall of Fame, a SAC or ARF unit must be Class A mishap-free for 48 months.

*U.S. Government Printing Office
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FLARE

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3 1262 09683 6399

SEASONS GREETINGS

From Combat Crew